Nutrition Risk Factors for Breastfeeding and Non-Breastfeeding Postpartum Women

Good nutrition continues to be important for the woman who has just delivered a baby. Pregnancy requires large amounts of nutrients and often depletes a woman's body of nutrient stores. This can have important health consequences for the woman who does not eat a quality diet. For the postpartum woman who breastfeeds the demand for nutrients is even greater. The woman requires nutrients to replenish her body while continuing to need additional nutrients for the production of breast milk.

Besides helping a postpartum woman to receive good nutrition, WIC provides other services to the woman. Postpartum women require screening and referral for various conditions like anemia and substance abuse. Breastfeeding moms may need support to successfully breastfeed. This is especially true for first time moms and those who are having difficulty breastfeeding. WIC staff can provide education about breastfeeding help to solve problems related to breastfeeding and make referrals to other lactation support services when needed..

The nutrition risk factors for postpartum women are very similar to the ones for pregnant women. Some are identical and others have slightly different definitions. Many of the NRFs, however, have different assigned priority and risk levels. In this section of the module we will examine those nutrition risk factors that are unique to postpartum women and also look at those that have different definitions. The NRFs common to breastfeeding and non-breastfeeding, postpartum women will be discussed first. Then the NRFs unique to breastfeeding women will be discussed. First, review the tables in your mini-manual to become familiar with those NRFs that apply to breastfeeding women and with those that apply to non-breastfeeding, postpartum women. Tables 2 and 3 at the end of this section also list the NRFs that apply to breastfeeding and non-breastfeeding postpartum women.

NRF# 47 Underweight - Postpartum weight <19.8 Body Mass Index (BMI) or ≤90% Ideal Body Weight (IBW).

NRF# 48 Overweight - Postpartum weight > 26 Body Mass Index (BMI) or >120% Ideal Body Weight (IBW).

These two risk factors are objective risk factors assigned by the ASPENS system. They are based on a woman's BMI that the ASPENS system computes using her height and postpartum weight. These risk factors are the same as those used for pregnant women except that the BMI is based on a woman's postpartum weight instead of her pregravid weight.

NRF# AA High Maternal Weight Gain - For singleton pregnancies only, total gestational weight gain during most recent pregnancy of:

- greater than 40 pounds for underweight women
- greater than 35 pounds for normal weight women
- greater than 25 pounds for overweight women
- greater than 20 pounds for obese women

Postpartum women with high maternal weight gains are at increased risk for obesity that could lead to chronic disease conditions such as diabetes and hypertension. These women may require extra support to help them remove excess weight gain during pregnancy and to return to their prepregnancy weight. This is an objective risk factor that is assigned by the ASPENS system.

Note: This NRF does not apply to women who have multi-fetal pregnancies (twins, triplets, etc.).

Complications of Last (most recent) Pregnancy - Presence of any of the following conditions during the last pregnancy:

NRF# AM - gestational diabetes
NRF# AN - preterm delivery (37 weeks or before)
NRF# AO - delivery of a low birth weight infant (5 2 pounds or 2500 grams or less)
NRF# AP - fetal death ($\geq$20 weeks gestation) or neonatal death (death within 0-28 days after birth)
NRF# AQ - delivery of infant with neural tube defect or cleft palate or lip

This is another "group" of risk factors. All of these complications indicate that a woman and her new infant may be nutritionally compromised and could benefit from extra nutritional support. Even though the complications listed are all related to the previous pregnancy, each condition has its own nutrition risk factor code. The codes are the same ones used for these complications when certifying pregnant women.

These NRFs are all subjective risk factors and must be assigned on the ASPENS risk assessment pop-up screen. At the bottom of the pop-up screen it gives the option "F4 PREV. PREG. COMPLICATIONS." To assign these risk factors you need to depress the F4 function key and then mark the appropriate conditions. Be sure to save the pop-up screen once you have made the proper selection.

Note: When this group of codes is used for pregnant women, the codes can be assigned if the condition occurred in ANY previous pregnancy. For postpartum women these NRFs may only be assigned if the condition occurred during the woman's most recent pregnancy (i.e., the pregnancy that is allowing her to be certified as a postpartum woman).

NRF# 40 Pregnancy at a Young Age - Less than 16 years at the time of conception.
NRF# 85 Pregnancy at a Young Age - Less than 16 years at the time of conception.
NRF# 41 Pregnancy at a Young Age - 16 or 17 years at the time of conception of last pregnancy.

NRF# 40 is used for pregnant women and breastfeeding women. It is a high risk condition because of the nutrition demands placed on a woman's body for growth as well as for pregnancy or breastfeeding. Very young, breastfeeding teens may also require extra support for breastfeeding due to maturity level and because physiologically they may produce less milk than a mature mother. NRF# 85 is a low risk condition used for non-breastfeeding, postpartum women of the same age. Good nutrition is still important for growth and health maintenance, but is easier to obtain without the added requirements of pregnancy or breastfeeding.

NRF# 41, for women 16-17 years of age at conception, is shared by pregnant and all postpartum women. It is a low risk condition.

NRF# 43 Closely Spaced Pregnancies - Less than 24 months between the date of a delivery, abortion, or miscarriage and the delivery date for the most recent pregnancy.

This NRF applies to pregnant and postpartum women. It has a slightly different definition for postpartum women than for pregnant women. The most recent delivery date is used to calculate the spacing of pregnancy for postpartum women while for pregnant women their current EDD is used. When women have closely spaced pregnancies it is difficult for them to maintain good nutritional status. This is an objective risk factor assigned by ASPENS.

NRF# 83 Multi-fetal Gestation - Pregnant woman currently carrying more than one fetus, or post-partum women who carried more than one fetus in most recent pregnancy.

NRF# 84 Multi-fetal Gestation - Breastfeeding woman who carried more than one fetus in most recent pregnancy.

Pregnant women and non-breastfeeding, postpartum women are assigned NRF# 83 for multi-fetal gestation which is a low risk condition and breastfeeding women are assigned NRF# 84, a high risk condition. Breastfeeding women require more support to effectively breastfeed twins or triplets. They also require more nutrient dense diets to meet the demands for increased milk production.

NRF# AC Use of Alcohol (for breastfeeding, postpartum women)

NRF# 60 Use of Alcohol (for non-breastfeeding, postpartum women)

- routine current use of two or more drinks per day; or
- binge drinking or heavy drinking, i.e., drinks 5 or more drinks on the same occasion on at least one day in the past 30 days

These two risk factors are related to alcohol consumption. They are numbered differently from each other because NRF# AC for breastfeeding women is a high risk condition (and high priority), while NRF# 60 for non-breastfeeding, postpartum women is a low priority and low risk condition. The definition of what is meant by "use of alcohol" is the same for both of these risk factors, however, it is very different from the definition for NRF# 56 which is used for pregnant women. For pregnant women ANY current use of alcohol is considered a risk factor while for postpartum women they must routinely consume at least 2 drinks per day or have at least 5 drinks during one day over the last 30 days.

Consumption of more than two drinks of alcohol per day and/or binge or heavy drinking are not considered compatible with good health for anyone. Excess alcohol consumption depletes the body of nutrients, can destroy brain cells, and can increase a person's risk for diseases like cirrhosis and certain types of cancer. Alcohol consumption during breastfeeding can decrease milk supply and is passed into the breast milk. Exposure to excess alcohol exposes the infant to substantial risk that can have lasting effects on their mental development.

Note: Alcohol consumption is NOT recommended during breastfeeding, however, small amounts (less than two drinks per day) occasionally consumed with meals and/or after breastfeeding an infant may only have minimal effects. All breastfeeding women should be encouraged not to drink.

Note: These two risk factors related to alcohol are objective risk factors and are assigned by the ASPENS system. ASPENS gets information about the person's alcohol consumption from the information that you enter on the woman visit data screen (WICPS104). It is important that you know how to enter the information correctly on this screen. On the woman visit data screen you are asked two questions about alcohol, number of days per week that the woman drinks and number of drinks consumed per day. The easy part is if a woman says "I drink 3 vodkas per day and I drink 2 days per week." In this case it is easy to enter the correct information into ASPENS. The problem is that many people are not able to give you such straight forward information. Do your best to estimate a person's usual intake. There are two rules that are important to remember when entering a woman's alcohol consumption:

- If a woman says that she has had only one drink during the last 30 days, you should enter that she drinks 8 days per week. This is a code that tells the ASPENS system that she drinks alcohol, but less than one day per week.
- If a woman reports that she had 5 or more drinks on any one day during the last 30 days you should list her drinks per day as the maximum that she had on any one day.

You do not need to know this information, but in case you are curious this is how ASPENS determines if the risk factors related to alcohol apply to a postpartum participant:

The risk factor is assigned in these two circumstances

$ if you enter that the person drinks two or more drinks per day **AND** that they drink four or more days per week

$ if you enter that the person drinks 5 or more drinks per day **AND** that they drink at least one day per week

What is a drink? A drink is usually defined as one ounce of hard liquor (rum, vodka, scotch etc.), one 12 ounce beer or one 4-5 ounce glass of wine. If you are unsure just ask the person how many drinks they had.

Nutrition Risk Factors for Breastfeeding, Postpartum Women Only

NRF# 89 Excessive Caffeine Intake - Routine intake of 3 cups of coffee or the caffeine equivalent from other caffeine-containing beverages. (One cup of brewed coffee provides an average of 90 mg of caffeine. In comparison, one cup of brewed tea provides an average of 30 mg of caffeine, and a cola-type beverage contains an average of 45 mg).

Caffeine consumed by the mother is transferred into breast milk. The equivalent amount of caffeine found in 1-2 cups of regular coffee consumed on a daily basis is unlikely to have a deleterious effect on the infant, however, consumption of three or more cups per day may have negative effects on a breastfed infant. Evidence from one study showed that maternal consumption of 3 or more cups of coffee daily can affect iron concentrations in breast milk and decrease infant iron status at 1 month of age. When a mother ingests larger amounts of caffeine (the equivalent of 6 or more cups/day), caffeine can accumulate in the infant, causing wakefulness, hyperactivity, or irritability.

The amount of caffeine in products varies widely. Even in a single beverage like coffee the amount of caffeine can vary greatly depending on the beans that are used and method of preparation. For purposes of this NRF use the following standard values:

-one cup of coffee = 90 mg caffeine
-one cup of tea = 30 mg caffeine
-cola-type beverage = 45 mg caffeine (12 ounce)

Whenever a participant consumes 270 mg of caffeine or more per day using the above reference values, this subjective risk factor should be assigned. There are other foods that contain caffeine (such as chocolate), but the amount of caffeine is small compared to that in coffee, tea and cola beverages and can be ignored for our purposes here. A single espresso should be considered the equivalent of a cup of coffee.

Note: Many drugs contain caffeine, but they are not included in the definition of this NRF. If a woman is taking large amounts of caffeine in drugs such as weight loss pills, stimulants, or cold medications the woman should be cautioned about the possible effects on her infant. Refer the participant to the WIC RD/RN when necessary.

NRF# 52 Breastfeeding Complications or Potential Complications - A breastfeeding woman with any of the following:

- $ severe breast engorgement
- $ recurrent plugged ducts
- $ mastitis (fever or flu-like symptoms with localized breast tenderness)
- $ flat or inverted nipples
- $ cracked, bleeding, or severely sore nipples
- $ age 40 years or older
- $ failure of milk to come in by 4 days postpartum
- $ tandem nursing (breastfeeding two siblings who are not twins)

Severe Breast Engorgement: Painful fullness of the breast due to inadequate removal of breast milk.
Mastitis: Infection of breast.

All of the above conditions can have an adverse impact on breastfeeding and the health of the infant and/or mother. Mothers with these conditions need to be evaluated and breastfeeding information, referral and/or support should be given as appropriate. See the Breastfeeding Module for further about these conditions.

This is a subjective risk factor and needs to be marked on the ASPENS risk assessment screen. The nutrition questionnaire should alert the WIC staff member to remember to assign this risk factor at certification. At a mid-cert risk visit, staff should inquire whether a breastfeeding woman is having difficulty nursing her infant. If the woman is having difficulty, the breastfeeding situation needs to be assessed and appropriate education or referral given. The WIC staff person should then enter the mid-cert risk factor (NRF# 52 MC - Breastfeeding Complications) on the participant=s ASPENS risk assessment screen.

Note: It is very important that a woman who is having breastfeeding difficulties be referred to the WIC dietitian or nurse immediately for evaluation and assistance. Failure to do so **immediately** can result in breastfeeding failure and health concerns for the infant.

NRF# 59 Use of Cigarettes - Any daily smoking of cigarettes.

Smoking is not healthy for the mother or her breastfeeding infant. Substances absorbed by the mother while smoking pass into breastmilk and can have undesirable effects on an infant. This is an objective risk factor assigned by ASPENS.

NRF# 61 Breastfeeding a Priority 1 Infant - Used for a mother who is currently breastfeeding an infant who is eligible for the WIC Program due to any of the Priority 1 nutrition risk factors.

NRF# 62 Breastfeeding a Priority 2 Infant - Used for a mother who is currently breastfeeding an infant who is eligible for the WIC Program due to any of the Priority 2 nutrition risk factors.

These last two breastfeeding NRFs for breastfeeding, postpartum women relate to their infants. These are used when certifying a woman who is currently breastfeeding an infant who qualifies for the WIC Program to assure that both are assigned the highest possible priority.

A breastfed infant is dependent on the mother's milk as a primary source of nutrition. Special attention should therefore be given to the health and nutrition status of the mother. Lactation requires additional calories, protein, calcium and other vitamins and minerals. Inadequate maternal nutrition may result in decreased milk supply to the infant. Therefore the breastfeeding mother of a priority 1 infant needs to be assigned the same high priority.

Remembering when an infant is priority 1 and priority 2 may seem a bit confusing at first, but basically all breastfeeding infants are usually either priority 1 or 2. Priority 1 infants are those with any growth issues (underweight, overweight, short stature, low birth weight), prematurity, anemia, those with medical conditions or those with breastfeeding complications. All other breastfeeding infants are usually priority 2 (unless their mother was not eligible for WIC).

Practice!

F

Below are two case studies of postpartum women. One woman is breastfeeding and one is not. Use the information listed below and list the nutrition risk factors that apply to each (objective and subjective). After each case study give the priority and risk that would be assigned to the woman.

1. Matilda Snow (recertification visit)

   24 year old breastfeeding woman, singleton pregnancy
   Height = 5 feet 7 inches
   Current weight = 174 pounds
   Hematocrit = 40% (5200 feet)
   Non-smoking
   Matilda was a normal weight woman prior to pregnancy
   Weight gain during pregnancy = 40 pounds
   This was Matilda's 2nd pregnancy. Infant was born 7 pounds 12 ounces. In her previous pregnancy (4 years ago) the infant was born weighing 5 pounds 3 ounces.
   Matilda had gestational diabetes with this pregnancy
   Diet recall: 4 diet colas
   1 coffee
   1 serving dairy
   2 servings meat/meat alternative
   6 servings breads/cereals
   4 servings fruits/vegetables
   0 vitamin A
   2 vitamin C
   1 serving wine (4 days per week)

   Complains of very sore, cracked nipples
   Infant on WIC, infant's length is under the 5th percentile for age

   Answer (List NRFs):

	Priority	Risk

   What is her priority?_____ What is her risk?_____

2. Janet Basey (recertification visit)
   18 year old, non-breastfeeding, postpartum woman (conceived while 17 years old)
   First pregnancy
   Height = 5 feet 10 inches
   Pregravid weight = 120 pounds
   Current weight = 128 pounds
   Gained 22 pounds during pregnancy
   Hematocrit = 38% (5200 feet)
   Smoker (1 pack per day)(20 cigarettes/pack)
   Infant born 5 pounds 2 ounces at 36 weeks (infant one month old, also on WIC)
   Diet recall:3 diet colas
   2 servings dairy
   3 serving meat/meat alternative
   4 servings breads/cereals
   2 servings fruits/vegetables
   0 vitamin A
   0 vitamin C
   Smokes marijuana occasionally

   Answer (List NRFs):

	Priority	Risk

   What is her priority?_____ What is her risk?_____

(See answers in back of module for Practice F)

Table 2. Risk Factors That Apply to Non-Breastfeeding, PP Women

		Priority	O/S	Risk
45/46	Anemia/Severe Anemia	6/6	O	L/H
AB	Elevated Blood Lead	6	O	M
81	Inadequate Diet	6	O	L
64	Pica	6	S	L
91	Excessive Intake of Dietary Supplements, Vitamins, or Minerals	6	S	L
86	Highly Restrictive Diets	6	S	M
70	Homelessness	6	O	L
71	Migrancy	6	O	L
93	Woman or Primary Caregiver with Limited Ability to Make Feeding Decisions	6	S	L
94	Foster Care	6	S	L
47	Underweight	6	O	L
48	Overweight	6	O	L
AA	High Maternal Weight Gain	6	O	L
	Complications of Last Pregnancy (AM, AN, AO, AP, AQ)	6	S	L
85/41	Pregnancy at a Young Age	4/4	O	L/L
43	Closely Spaced Pregnancies	6	O	L
83	Multi-fetal Gestation	6	S	L
	Medical Conditions HR/MR	6	S	H/M
60	Use of Alcohol	6	O	L
57	Use of Illegal Drugs	6	O	H
69	Regression	6	S	L
95/96	Transfer		S	L

Table 3. Risk Factors That Apply to Breastfeeding, Postpartum Women

		Priority	O/S	Risk
45/46	Anemia/Severe Anemia	1/1	O	L/H
AB	Elevated Blood Lead	1	O	M
81	Inadequate Diet	4	O	L
64	Pica	4	S	L
91	Excessive Intake of Dietary Supplements, Vitamins, or Minerals	4	S	L
86	Highly Restrictive Diets	4	S	M
70	Homelessness	4	O	L
71	Migrancy	4	O	L
93	Woman or Primary Caregiver with Limited Ability to Make Feeding Decisions	4	S	L
94	Foster Care	4	S	L
47	Underweight	1	O	L
48	Overweight	1	O	L
AA	High Maternal Weight Gain	1	O	L
	Complications of Last Pregnancy (AM, AN, AO, AP, AQ)	1	S	L
40/41	Pregnancy at a Young Age	1/1	O	H/L
43	Closely Spaced Pregnancies	1	O	L
84	Multi-fetal Gestation	1	S	H
	Medical Conditions HR/MR	1	S	H/M
59	Use of Cigarettes	1	O	L
AC	Use of Alcohol	1	O	H
57	Use of Illegal Drugs	1	O	H
89	Excessive Caffeine Intake	4	S	L
52	Breastfeeding Complications	1	S	H
61	Breastfeeding Priority 1 Infant	1	S	L
62	Breastfeeding Priority 2 Infant	2	S	L
69	Regression	4	S	L
95/96	Transfer		S	L